STN Search

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L1        1659 (MOUTH OR BUCCAL OR MUCOUS OR ORAL) (S) (VACCIN###### OR IMMUN##
               #####) (P) (LOCAL (S) (RESPONSE OR ANTIBODY OR IGA))

L4         479 L1 AND SECRET#### (S) (ANTIBODY OR IGA OR IMMUNOGLOBULIN (A) A)


     (FILE 'HOME' ENTERED AT 14:04:10 ON 21 OCT 2003)

     FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHNO, EMBASE, SCISEARCH' ENTERED AT
     14:04:40 ON 21 OCT 2003
L1          1659 S (MOUTH OR BUCCAL OR MUCOUS OR ORAL) (S) (VACCIN###### OR IMMU
L2             4 S L1 AND (FLOOR (S) MOUTH)
L3             3 DUP REM L2 (1 DUPLICATE REMOVED)
L4           479 S L1 AND SECRET#### (S) (ANTIBODY OR IGA OR IMMUNOGLOBULIN (A)
L5            16 S L4 AND (HIV OR HUMAN (A) IMMUNODEFICIENCY)
L6             6 DUP REM L5 (10 DUPLICATES REMOVED)
L7           323 S L4 AND (LOCAL (S) RESPONSE)
L8           143 DUP REM L7 (180 DUPLICATES REMOVED)
L9            34 S L8 AND (VIRUS OR PATHOGEN)
L10           25 S L9 NOT PY>1998
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L3 ANSWER 1 OF 3 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
DUPLICATE
AN 2003:36682895 BIOTECHNO
TI Combination nonviral interleukin 2 gene therapy and external-beam radiation therapy for head and neck cancer
AU Bray D.; Yu S.-Z.; Koprowski II H.; Rhee J.; Kumar S.; Pericle F.; Suntharalingam M.; Van Echo D.A.; Li D.; O'Malley Jr. B.W.
CS Dr. B.W. O'Malley Jr., Otolaryngology-Head/Neck Surgery, Univ. of Maryland Sch. of Medicine, 16 S Eutaw St, Baltimore, MD 21201, United States.
E-mail: bomalley@smail.umaryland.edu
SO Archives of Otolaryngology - Head and Neck Surgery, (01 JUN 2003), 129/6 (618-622), 14 reference(s)
CODEN: AONSEJ ISSN: 0886-4470
DT Journal; Article
CY United States
LA English
SL English
AB Objectives: To demonstrate that the combination of nonviral murine interleukin 2 (mIL-2) gene therapy and external-beam radiation therapy (XRT) have an enhanced therapeutic effect for the treatment of head and neck squamous cell carcinoma (HNSCC) in an orthotopic murine model and to elucidate the mechanism of action. Methods: Randomized, controlled studies in the murine orthotopic model of HNSCC. Squamous cell carcinoma VII cells were injected into the **floor** of the **mouth** to establish tumors in immunocompetent mice. The intervention groups were treated with mIL-2, radiation therapy, empty plasmid, no treatment, combination mIL-2/XRT, and combination empty plasmid/XRT. Nonviral mIL-2 gene transfer was performed on days 5 and 9. The XRT was administered to the assigned groups 24 hours after first mIL-2 delivery. The mice were killed on day 13. Tumors and **local** lymph nodes were harvested and evaluated. Primary and secondary cytokine expression, cytotoxic T-lymphocyte activity, and apoptosis were assayed. Results: The combination mIL-2/XRT demonstrated a significant increase in antitumor effects compared with single therapy or controls. Increased expression levels of primary and secondary cytokines were found in the group treated with mIL-2, and this effect was preserved when mIL-2 treatment was combined with XRT. Combination therapy significantly increased apoptosis compared with monotherapy. Conclusions: The present study demonstrates that combination mIL-2/XRT generates potent antitumor **immune responses** and significantly increases apoptosis in an orthotopic murine model of HNSCC. Further optimization of this strategy is warranted as well as consideration for human clinical trials.

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:15035 CAPLUS
DN 132:69299
TI Mucosal targeting immunization comprising immunogens
IN Jourdier, Therese; Moste, Catherine; Meignier, Bernard
PA Pasteur Merieux Serums & Vaccins, Fr.
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000000218	A1	20000106	WO 1999-FR1554	19990628

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,

JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,
MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ,
MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2337823	AA	20000106	CA 1999-2337823	19990628
AU 9943761	A1	20000117	AU 1999-43761	19990628
EP 1087788	A1	20010404	EP 1999-926558	19990628

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI

	US 2001021384	A1	20010913	US 2000-746581	20001221
PRAI	FR 1998-8354	A	19980626		
	WO 1999-FR1554	W	19990628		

AB The invention concerns the use of an **immunogen** specific of a pathogenic agent with a gateway in the **buccal mucous** membrane region, for producing a **vaccine** compn. to be administered in the **floor** of the **mouth** in a human being so as to develop directly a **local response** in **IgA antibodies** and in B cells secreting **IgA** in the **buccal mucous** membrane, saliva and ganglions draining said **mucous** membrane. The invention also concerns a **vaccine** compn. capable of being applied in the **floor** of the **mouth** in a human being to induce **local** and systemic **immunity** in **IgA antibodies**, substantially consisting of a material adhering or not to the **buccal mucous** membrane and contg. an **immunogen** specific of the pathogenic agent with a gateway into the **buccal mucous** membrane. Capsules contg. starch and hydroxyapatite particles comprising lyophilized antigens of cytomegalovirus or hepatitis A were prepd. The capsules were slowly dissolved inside the mouth. The hydroxyapatite facilitated the penetration of the immunogens through the mucosa.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 3 EMBASE
on STN

AN 85143995 EMBASE

DN 1985143995

TI [The type of distribution of the cellular oral immune system of the major and minor salivary glands. Immunocytochemical observations].
DAS VERTEILUNGSMUSTER DES ZELLULAREN ORALEN IMMUNSYSTEMS IN DEN GROSSEN UND KLEINEN MUNDSPEICHELDRUSEN. IMMUNZYTOCHEMISCHE BEFUNDE.

AU Beckenkamp G.

CS Institut fur Pathologie, Universitat Hamburg, D 2000 Hamburg 20, Germany

SO HNO, (1985) 33/5 (196-203).
CODEN: HBZHAS

CY Germany

DT Journal

FS 011 Otorhinolaryngology
005 General Pathology and Pathological Anatomy
026 Immunology, Serology and Transplantation

LA German

SL English

AB The cellular distribution of lymphocytes and **immunocytes** in the major and minor salivary glands was analyzed comparatively by a semiquantitative method on mastoids from 53 random autopsies. In a second step, the immunoglobulin producing **immunocytes** were cytochemically distinguished by their content of **IgA**, IgG, and IgM. In addition to the major salivary glands (parotid, sublingual and

submandibular), seven minor salivary gland regions (palate, **floor** of the **mouth**, upper lip, lower lip, cheek, retrolingual region and tip of the tongue) were studied. The immunocytochemical differentiation was performed by the avidin-biotin-system; the findings were evaluated morphometrically. The following results were obtained: 1. The incidence of a marked or massive infiltration with lymphocytes and **immunocytes**, especially in the periductal area, showed the following distribution: **floor** of the **mouth** 36%, sublingual gland 27%, cheek 26%, palate 25%, lower lip 12%, other salivary glands less than 10% (tip of the tongue 9%, submandibular gland 8%, parotid gland 6%, retrolingual region 4%). 2. 90% of the **immunocytes** contained **IgA**, whereas only 10% showed IgG or IgM. The highest density of **IgA** producing **immunocytes** was found in the upper lip, followed by the glands in the cheek and lower lip, the submandibular gland and the glands in the **floor** of the **mouth**. The lowest infiltration rate with **IgA** containing **immunocytes** was seen in the glands of the tip of the tongue, of the cheek and in the submandibular and parotid glands. The glands of the lips and the cheek predominated with respect to IgG and IgM. 3. Areas with an extreme cellular infiltration contained mainly lymphocytes; only a few active **immunocytes** were seen in marginal areas. This finding may indicate a lesion of the **local** secretory **immune** system and the increasing role of cellular immunopathological reactions in chronic immunosialadenitis. 4. Correlations of the infiltration rate with other parameters (age, sex, basic disease, therapy) could not be demonstrated. The findings are discussed with respect to the role of the minor salivary glands in the **oral** secretory **immune** system, especially in the production and secretion of **IgA**.

```
N    22326420   PubMed ID: 12439202
TI    Nonspecific secretory immunity in HIV-infected patients with
      oral candidiasis.
AU    Bard E; Laibe S; Clair S; Biichle S; Millon L; Drobacheff C; Bettinger D;
      Seilles E; Meillet D
CS    Institut d'Etude et de Transfert de Genes EA3181, Faculte de
      Medicine-Pharmacie, Besancon, France.
SO    JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES, (2002 Nov 1) 31 (3)
      276-84.
      Journal code: 100892005. ISSN: 1525-41

L6    ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2003 ACS on STN
AN    2001:452881  CAPLUS
DN    135:51019
TI    Use of inactivated immunosuppressive or angiogenic immunogenic proteins
      for producing secretory IgA
IN    Zagury, Daniel
PA    Neovacs, Fr.
SO    PCT Int. Appl., 44 pp.
      CODEN: PIXXD2
DT    Patent
LA    French
FAN.CNT 1
      PATENT NO.        KIND  DATE          APPLICATION NO.   DATE
      ---------------   ----  --------      ---------------   --------
PI    WO 2001043771      A1   20010621      WO 2000-FR3526    20001214
          W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
              CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
              HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
              LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
              SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
              YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
          RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
              DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
              BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
      FR 2802426         A1   20010622      FR 1999-15825     19991215
      BR 2000016371      A    20020827      BR 2000-16371     20001214
      EP 1237573         A1   20020911      EP 2000-985439    20001214
          R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
              IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
      US 2003003106      A1   20030102      US 2002-168115    20020617
PRAI  FR 1999-15825      A    19991215
      WO 2000-FR3526     W    20001214
AB    The invention concerns the use of a protein derived from cancer cells,
      cells infected by a virus or immune cells or an inactive
      fragment of said protein, said protein being initially an
      immunosuppressive and/or an angiogenic protein with local
      activity whereof said properties have been inactivated by at least 70 % by
      a phys. and/or chem. treatment, such as formolization, carboxamidation,
      carboxymethylation, maleimidation or oxidn. by oxygen bubbling, by genetic
      recombination or by adjuvant conditioning, said treatment preserving its
      property of being identified by antibodies directed against said
      protein, and preserving sufficient immunogenic properties for
      generating antibodies neutralizing or blocking said native
      protein, or the use of a DNA mol. corresponding to said protein
      inactivated by mutation or to said inactive fragment, for obtaining a
      medicine designed to provide a patient with mucosal immunity
      based on secretion of IgA secretory
      antibodies, pharmaceutical compns. for the mucous
      membranes and IgA antibodies.
RE.CNT  7      THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:15035 CAPLUS
DN 132:69299
TI Mucosal targeting immunization comprising immunogens
IN Jourdier, Therese; Moste, Catherine; Meignier, Bernard
PA Pasteur Merieux Serums & Vaccins, Fr.
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000000218	A1	20000106	WO 1999-FR1554	19990628
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2337823	AA	20000106	CA 1999-2337823	19990628
	AU 9943761	A1	20000117	AU 1999-43761	19990628
	EP 1087788	A1	20010404	EP 1999-926558	19990628
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
	US 2001021384	A1	20010913	US 2000-746581	20001221
PRAI	FR 1998-8354	A	19980626		
	WO 1999-FR1554	W	19990628		

AB The invention concerns the use of an **immunogen** specific of a pathogenic agent with a gateway in the **buccal mucous** membrane region, for producing a **vaccine** compn. to be administered in the floor of the **mouth** in a human being so as to develop directly a **local response** in **IgA antibodies** and in B cells **secreting IgA** in the **buccal mucous** membrane, saliva and ganglions draining said **mucous** membrane. The invention also concerns a **vaccine** compn. capable of being applied in the floor of the **mouth** in a human being to induce **local** and systemic **immunity** in **IgA antibodies**, substantially consisting of a material adhering or not to the **buccal mucous** membrane and contg. an **immunogen** specific of the pathogenic agent with a gateway into the **buccal mucous** membrane. Capsules contg. starch and hydroxyapatite particles comprising lyophilized antigens of cytomegalovirus or hepatitis A were prepd. The capsules were slowly dissolved inside the mouth. The hydroxyapatite facilitated the penetration of the immunogens through the mucosa.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Lipidation as a novel approach to mucosal immunization.
AU Tam J P; Mora A L; Rao C
CS Department of Microbiology and Immunology, Vanderbilt University, Nashville, TN, USA.
NC A137965
SO DEVELOPMENTS IN BIOLOGICAL STANDARDIZATION, (1998) 92 109-16.
Journal code: 0427140. ISSN: 0301-5149.
CY Switzerland

DT Journal; Article; (JOURNAL ARTICLE)

L6 ANSWER 5 OF 6 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AN 97:265156 SCISEARCH
GA The Genuine Article (R) Number: WQ298
TI Comparison of the oral, rectal, and vaginal immunization routes for induction of **antibodies** in rectal and genital tract **secretions** of women
AU Kozlowski P A (Reprint); Cuuvin S; Neutra M R; Flanigan T P
CS CHILDRENS HOSP, GI CELL BIOL RES LAB, ENDERS BLDG, RM 1220, 300 LONGWOOD AVE, BOSTON, MA 02115 (Reprint); HARVARD UNIV, SCH MED, DEPT PEDIAT, BOSTON, MA 02115; BROWN UNIV, DEPT MED, PROVIDENCE, RI 02809; MIRIAM HOSP, PROVIDENCE, RI 02809
CYA USA
SO INFECTION AND IMMUNITY, (APR 1997) Vol. 65, No. 4, pp. 1387-1394.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0019-9567.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 40
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB To determine which mucosal **immunization** routes may be optimal for induction of **antibodies** in the rectum and female genital tract, groups of women were **immunized** a total of three times either orally, rectally, or vaginally with a cholera **vaccine** containing killed Vibrio cholerae cells and the recombinant cholera toxin B (CTB) subunit, Systemic and mucosal **antibody responses** were assessed at 2-week intervals by quantitation of CTB-specific **antibodies** in serum and in **secretions** collected directly from mucosal surfaces of the **oral** cavity, rectum, cervix, and vagina with absorbent wicks, The three **immunization** routes increased levels of specific immunoglobulin G (IgG) in serum and specific **IgA** in saliva to similar extents, Rectal **immunization** was superior to other routes for inducing high levels of specific **IgA** and IgG in rectal **secretions** but was least effective for generating **antibodies** in female genital tract **secretions**. Only vaginal **immunization** significantly increased both specific **IgA** and specific IgG in both the cervix and the vagina, In addition, **local** production of CTB-specific IgG in the genital tract could be demonstrated only in vaginally **immunized** women, Vaginal **immunization** did not generate **antibodies** in the rectum, however. Thus, generation of optimal **immune responses** to sexually transmitted organisms in both the rectal and the genital mucosae of women may require **local** **immunization** at both of these sites.

TI Oral immunization with recombinant BCG induces cellular and humoral immune responses against the foreign antigen.
AU Lagranderie M; Murray A; Gicquel B; Leclerc C; Gheorghiu M
CS Laboratoire du BCG, Institut Pasteur de Paris, France.
SO VACCINE, (1993 Oct) 11 (13) 1283-90.
Journal code: 8406899. ISSN: 0264-410X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English

L10 ANSWER 1 OF 25 MEDLINE on STN
TI Induction of SIV capsid-specific CTL and mucosal sIgA in mice immunized with a recombinant S. typhimurium aroA mutant.
AU Valentine P J; Meyer K; Rivera M M; Lipps C; Pauza D; Maziarz R T; So M; Heffron F
SO VACCINE, (1996 Feb) 14 (2) 138-46.
Journal code: 8406899. ISSN: 0264-410X.

L10 ANSWER 2 OF 25 MEDLINE on STN
TI Immune response in the lungs following oral immunization with bacterial lysates of respiratory **pathogens**.
AU Ruedl C; Fruhwirth M; Wick G; Wolf H
SO CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY, (1994 Mar) 1 (2) 150-4.
Journal code: 9421292. ISSN: 1071-412X.

L10 ANSWER 3 OF 25 MEDLINE on STN
TI A recombinant Salmonella typhimurium vaccine induces local immunity by four different routes of immunization.
AU Hopkins S; Kraehenbuhl J P; Schodel F; Potts A; Peterson D; de Grandi P; Nardelli-Haefliger D
SO INFECTION AND IMMUNITY, (1995 Sep) 63 (9) 3279-86.
Journal code: 0246127. ISSN: 0019-9567.

L10 ANSWER 4 OF 25 MEDLINE on STN
TI Comparative antibody responses and protection in mice immunised by oral or parenteral routes with influenza **virus** subunit antigens in aqueous form or incorporated into ISCOMs.
AU Ghazi H O; Potter C W; Smith T L; Jennings R
SO JOURNAL OF MEDICAL MICROBIOLOGY, (1995 Jan) 42 (1) 53-61.
Journal code: 0224131. ISSN: 0022-2615.

L10 ANSWER 5 OF 25 MEDLINE on STN
TI Prospects for human mucosal vaccines.
AU Mestecky J; McGhee J R
SO ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY, (1992) 327 13-23. Ref: 64
Journal code: 0121103. ISSN: 0065-2598.

L10 ANSWER 6 OF 25 MEDLINE on STN
TI Antigen processing in the mucosal immune system.
AU Keren D F
SO SEMINARS IN IMMUNOLOGY, (1992 Aug) 4 (4) 217-26. Ref: 92
Journal code: 9009458. ISSN: 1044-5323.

L10 ANSWER 7 OF 25 MEDLINE on STN
TI Mucosal immunity: implications for vaccine development.
AU Holmgren J; Czerkinsky C; Lycke N; Svennerholm A M
SO IMMUNOBIOLOGY, (1992 Feb) 184 (2-3) 157-79. Ref: 66
Journal code: 8002742. ISSN: 0171-2985.

L10 ANSWER 8 OF 25 MEDLINE on STN
TI Oral administration of a streptococcal antigen coupled to cholera toxin B subunit evokes strong antibody responses in salivary glands and extramucosal tissues.
AU Czerkinsky C; Russell M W; Lycke N; Lindblad M; Holmgren J
SO INFECTION AND IMMUNITY, (1989 Apr) 57 (4) 1072-7.
Journal code: 0246127. ISSN: 0019-9567.

L10 ANSWER 13 OF 25 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
TI **Oral immunization** with a model protein entrapped in

microspheres prepared from derivatized .alpha.-amino acids
AU Haas S.; Miura-Fraboni J.; Zavala F.; Murata K.; Leone-Bay A.; Santiago N.
SO Vaccine, (1996), 14/8 (785-791)
CODEN: VACCDE ISSN: 0264-410X

L10 ANSWER 17 OF 25 EMBASE on STN
TI Immunization against influenza in humans using an oral enteric-coated killed **virus** vaccine.
AU Lazzell V.; Waldman R.H.; Rose C.; et al.
SO Journal of Biological Standardization, (1984) 12/3 (315-321).
CODEN: JBSTBI

L10 ANSWER 20 OF 25 EMBASE on STN
TI Localized humoral immunity with particular reference to ruminants.
AU Lascelles A.K.; McDowell G.H.
SO TRANSPLANT.REV., (1974) No.19/- (170-208).
CODEN: TRPRBF

ANSWER 22 OF 25 EMBASE on STN
TI Intestinal defence in the young pig: a review of the **secretory antibody** systems and their possible role in oral immunisation.
AU Porter P.
SO Veterinary Record, (1973) 92/25 (658-664).
CODEN: VETRAX

L10 ANSWER 24 OF 25 SCISEARCH
TI Oral immunization with a model protein entrapped in microspheres prepared from derivatized alpha-amino acids (Reprinted from Vaccine, vol 14, pg 785-791, 1996)
AU Haas S (Reprint); MiuraFraboni J; Zavala F; Murata K; LeoneBay A; Santiago N
SO VACCINE, (OCT 1996) Vol. 14, No. 14, pp. 1391-1397.
Publisher: BUTTERWORTH-HEINEMANN LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD, OXON, ENGLAND OX5 1GB.
ISSN: 0264-410X.

L10 ANSWER 1 OF 25 MEDLINE on STN
AN 97005100 MEDLINE
DN 97005100 PubMed ID: 8852411
TI Induction of SIV capsid-specific CTL and mucosal sIgA in mice immunized with a recombinant S. typhimurium aroA mutant.
AU Valentine P J; Meyer K; Rivera M M; Lipps C; Pauza D; Maziarz R T; So M; Heffron F
CS Department of Microbiology and Immunology, Oregon Health Sciences University, Portland 97201, USA.
SO VACCINE, (1996 Feb) 14 (2) 138-46.
Journal code: 8406899. ISSN: 0264-410X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; AIDS
EM 199612
ED Entered STN: 19970128
Last Updated on STN: 19980206
Entered Medline: 19961206
AB We have developed a new expression system based on the E. coli groEL promoter. The suicide vector constructed (called APC vector) allows simultaneous attenuation of a Salmonella strain by disruption of the coding sequence for aroA and stable integration of a gene into the bacterial chromosome. High-level expression of antigen is achieved after Salmonella is taken up by macrophages, a major antigen processing cell of the host. The chloramphenicol acetyltransferase (CAT) and the simian immunodeficiency **virus** capsid (p27gag) genes were cloned downstream of the groEL promoter and expressed within S. typhimurium. By measuring CAT activity, we showed that the groEL promoter was up-regulated during infection of the J774 macrophage line. The **immune** response to SIV capsid was assessed in Balb/c mice given one **oral** dose of **vaccine**. A **local** mucosal **secretory** **IgA response** against SIV capsid was detected but no systemic **antibody response** to the same antigen. A systemic CTL response was detected as early as 28 days to as late as 70 days post-immunization. CTL activity was MHC restricted (H-2d) and was mediated by CD3+, CD8+, CD4- T-lymphocytes. These results indicate that with only one oral dose of recombinant Salmonella using the APC vector, a systemic CTL response and a mucosal secretory response against the SIV capsid antigen are elicited in a mouse model.

L10 ANSWER 3 OF 25 MEDLINE on STN
AN 95369875 MEDLINE
DN 95369875 PubMed ID: 7642256
TI A recombinant Salmonella typhimurium vaccine induces local immunity by four different routes of immunization.
AU Hopkins S; Kraehenbuhl J P; Schodel F; Potts A; Peterson D; de Grandi P; Nardelli-Haefliger D
CS Institute of Biochemistry, University of Lausanne, Switzerland.
NC AI 33562-03 (NIAID)
SO INFECTION AND IMMUNITY, (1995 Sep) 63 (9) 3279-86.
Journal code: 0246127. ISSN: 0019-9567.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199509
ED Entered STN: 19950930
Last Updated on STN: 19950930

Entered Medline: 19950921

AB Immunization of mice with an attenuated Salmonella typhimurium strain (Phopc) carrying a plasmid encoding a hybrid form of the hepatitis B **virus** core antigen (HBc) induced specific antibody responses against the bacterial lipopolysaccharide (LPS) and HBc. Different mucosal routes of **immunization**, i.e., **oral**, nasal, rectal, and vaginal, were compared for their ability to induce a systemic as well as a mucosal response at sites proximal or distant to the site of **immunization**. Anti-LPS and anti-HBc **immunoglobulin A** (**IgA**) **antibodies** were measured in saliva, in feces, and in genital, bronchial, and intestinal **secretions**. Specific **antibodies** in serum and **secretions** were observed after immunization via all routes; however, the response to LPS was independent of that against HBc. In serum, saliva, and genital and bronchial **secretions**, high amounts of anti-HBc **IgA** were obtained by the nasal route of immunization. Vaginal immunization resulted in two different responses in mice: high and low. We observed a correlation between the level of specific immune response and the estrous status of these mice at the time of immunization. Rectal immunization induced high amounts of **IgA** against HBc and LPS in colonorectal **secretions** and feces but not at distant sites. These data suggest that S. typhimurium is able to invade different mucosal tissues and induce long-lasting **local IgA responses** against itself and a carried antigen after a single immunization.

L10 ANSWER 5 OF 25 MEDLINE on STN
AN 93198761 MEDLINE
DN 93198761 PubMed ID: 1295333
TI Prospects for human mucosal vaccines.
AU Mestecky J; McGhee J R
CS Department of Microbiology, University of Alabama, Birmingham 35294-10005.
NC AI-15128 (NIAID)
AI-18745 (NIAID)
DE08182 (NIDCR)
SO ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY, (1992) 327 13-23. Ref: 64
Journal code: 0121103. ISSN: 0065-2598.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199304
ED Entered STN: 19930423
Last Updated on STN: 20000303
Entered Medline: 19930412

AB The selective induction of **antibodies** in external **secretions** and mucosal T cell-mediated immunity are desirable for the prevention of various systemic as well as predominantly mucosa-restricted infections. An enormous surface area of mucosal membranes is protected primarily by antibodies that belong, in many species, to the IgA isotype. Such **antibodies** are produced locally by large numbers of **IgA**-containing plasma cells distributed in subepithelial spaces of mucosal membranes and in the stroma of **secretory** glands. In humans and in some animal species, plasma-derived **IgA antibodies** do not enter external **secretions** in significant quantities and systemically administered preformed **IgA antibodies** would be of little use for passive immunization. Systemic administration of microbial antigens may boost an effective S-IgA immune response only in a situation whereby an

immunized individual had previously encountered the same antigen by the mucosal route. Immunization routes that involve ingestion or possibly inhalation of antigens lead to the induction of not only **local** but also generalized immune **responses**, manifested by the parallel appearance of S-**IgA antibodies** to ingested or inhaled antigens in **secretions** of glands distant from the site of immunization. Convincing evidence is available that antigen-sensitized and IgA-committed precursors of plasma cells and T cells from IgA inductive sites (e.g., BALT, GALT, and tonsils) are disseminated to the gut, other mucosa-associated tissues, and exocrine glands. However, due to the limited absorption of desired antigens from the gut lumen of orally immunized individuals, repeated large doses of antigens are required for an effective S-IgA response. Novel antigen delivery systems for the stimulation of such responses has been briefly reviewed here. These, of course, include genetically engineered bacteria and **viruses**, CT/CFB, liposomes and microspheres. Live attenuated or genetically manipulated bacteria expressing other microbial antigens have been used for selective colonization of GALT. Unique antigen packaging and the use of adjuvants suitable for oral administration hold promise for an efficient antigen delivery to critical tissues in the intestine and deserve extensive exploration. The **oral immunization** route appears to have many advantages over systemic **immunization** ; however, one must consider alternate IgA inductive sites and compartmentalization within the Common Mucosal **Immune** System. In addition to providing immunity on mucosal surfaces, which are the most common sites of entry of infectious agents, the mucosal routes of administration are more acceptable and do not require stringent criteria applicable for injectable vaccines, storage problems may be simplified, and large populations of individuals can be immunized simultaneously without the assistance of highly trained health personnel.

L10 ANSWER 6 OF 25 MEDLINE on STN
AN 93004512 MEDLINE
DN 93004512 PubMed ID: 1391796
TI Antigen processing in the mucosal immune system.
AU Keren D F
CS Warde Medical Laboratory, Ann Arbor, MI 48108.
SO SEMINARS IN IMMUNOLOGY, (1992 Aug) 4 (4) 217-26. Ref: 92
Journal code: 9009458. ISSN: 1044-5323.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199211
ED Entered STN: 19930122
Last Updated on STN: 19930122
Entered Medline: 19921104
AB The mucosal immune system is concerned with host defense along the moist surfaces of the body which have contact with the external environment. These sites contain specialized lymphoid structures which contain precursors for IgA-synthesizing B lymphocytes and immunoregulatory T lymphocytes which will determine whether **oral** tolerance or a strong **immune** response develops against antigens administered orally. The key step to antigen processing in the gastrointestinal tract involves its initial uptake from the gut lumen by specialized follicle associated epithelium called 'M' cells. M cells originate from adjacent crypt epithelium and are interspersed between the absorptive epithelial cells in the follicle-associated epithelium. M cells cells have short, irregular microvilli, are closely associated with lymphocytes, do not have

a prominent terminal web, and have only weak alkaline phosphatase activity but strong nonspecific esterase activity. M cells do not express surface MHC class II (HLA-DR) antigens. These cells take up macromolecules, **viruses**, bacteria and protozoa within 30 minutes from the initial presentation of the antigen to the intestinal lumen. After the initial uptake of antigen by M cells, the antigens are transported into the follicular areas to be processed by dendritic cells and brought into close contact with the antigen-specific precursors for **IgA secreting** plasma cells. The final result of M cell processing is the production of a vigorous **secretory IgA response** and **local** cell-mediated immunity with suppression of a systemic IgG, IgE and delayed-type hypersensitivity to orally-administered antigens.

L10 ANSWER 7 OF 25 MEDLINE on STN
AN 92267543 MEDLINE
DN 92267543 PubMed ID: 1587541
TI Mucosal immunity: implications for vaccine development.
AU Holmgren J; Czerkinsky C; Lycke N; Svennerholm A M
CS Department of Medical Microbiology and Immunology, University of Goteborg, Sweden.
SO IMMUNOBIOLOGY, (1992 Feb) 184 (2-3) 157-79. Ref: 66
Journal code: 8002742. ISSN: 0171-2985.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199206
ED Entered STN: 19920710
Last Updated on STN: 19920710
Entered Medline: 19920622
AB The mucosal surfaces in e.g. the gastrointestinal, respiratory and urogenital tracts represent a very large exposure area to exogenous agents including microorganisms. Not surprising, therefore, those mucosal tissues are defended by a local immune system with properties and functions that in many respects are separate from the systemic immune system. The intestine is the largest immunological organ in the body. It comprises 70-80% of all immunoglobulin-producing cells and produces more **secretory IgA** (SIgA) (50-100 mg/kg body weight/day) than the total production of IgG in the body (ca. 30 mg/kg/day). The **local** immune system of the gut has two main functions: to protect against enteric infections, and to protect against uptake of and/or harmful immune **response** to undergraded food antigens. The best known entity providing specific immune protection for the gut is the SIgA system. The resistance of SIgA against normal intestinal proteases makes antibodies of this isotype uniquely well suited to protect the intestinal mucosal surface. The main protective function of SIgA antibodies is the "immune exclusion" of bacterial and viral **pathogens**, bacterial toxins and other potentially harmful molecules. SIgA has also been described to mediate antibody-dependent T cell-mediated cytotoxicity (ADCC), and to interfere with the utilization of necessary growth factors for bacterial **pathogens** in the intestinal environment, such as iron. It is now almost axiomatic that in order to be efficacious, **vaccines** against enteric infection must be able to stimulate the local gut mucosal **immune** system, and that this goal is usually better achieved by administering the **vaccines** by the **oral** route rather than parenterally. Based on the concept of a common mucosal **immune** system through which activated lymphocytes from the gut can disseminate **immunity** also to other mucosal and

glandular tissues there is currently also much interest in the possibility to develop **oral vaccines** against e.g. infections in the respiratory and urogenital tracts. It has previously been widely assumed that only live vaccines would efficiently stimulate a gut mucosal immune response. However, an **oral** cholera **vaccine**, composed of the nontoxic B subunit of cholera toxin in combination with killed whole cell (WC) cholera vibrios has been shown to stimulate a strong intestinal SIgA antibody response associated with long-lasting protection against cholera. We have used this new cholera subunit vaccine and developed ELISPOT methods for examining at the clonal B and T cell level the dynamics of intestinal and extra-intestinal immune responses in humans after enteric immunizations.(ABSTRACT TRUNCATED AT 400 WORDS)

L10 ANSWER 8 OF 25 MEDLINE on STN
AN 89173300 MEDLINE
DN 89173300 PubMed ID: 2925239
TI Oral administration of a streptococcal antigen coupled to cholera toxin B subunit evokes strong antibody responses in salivary glands and extramucosal tissues.
AU Czerkinsky C; Russell M W; Lycke N; Lindblad M; Holmgren J
CS Department of Medical Microbiology, University of Goteborg, Sweden.
NC DE 06746 (NIDCR)
SO INFECTION AND IMMUNITY, (1989 Apr) 57 (4) 1072-7.
Journal code: 0246127. ISSN: 0019-9567.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198905
ED Entered STN: 19900306
Last Updated on STN: 20000303
Entered Medline: 19890505
AB Generation of **local** and systemic **immune responses** by the **oral** administration of antigens is frequently inefficient, requiring large quantities of **immunogens** and yielding only modest **antibody responses**. In this study, we have demonstrated that oral administration of microgram amounts of Streptococcus mutans protein antigen I/II covalently coupled to the B subunit of cholera toxin elicits vigorous mucosal as well as extramucosal immunoglobulin A and G antistreptococcal antibody responses in mice. These responses were manifested by the presence of large numbers of **antibody-secreting** cells in salivary glands, mesenteric lymph nodes, and spleens and by the development of high levels of circulating **antibodies**. This novel **immunization** strategy may find broad application in the construction of **oral vaccines** for the control of infectious diseases caused by **pathogens** encountered at mucosal and extramucosal sites.

L10 ANSWER 17 OF 25 EMBASE COPYRIGHT 2003 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 85129245 EMBASE
DN 1985129245
TI Immunization against influenza in humans using an oral enteric-coated killed **virus** vaccine.
AU Lazzell V.; Waldman R.H.; Rose C.; et al.
CS Schools of Medicine and Pharmacy, West Virginia University, WV, United States
SO Journal of Biological Standardization, (1984) 12/3 (315-321).
CODEN: JBSTBI
CY United Kingdom

DT Journal
FS 037 Drug Literature Index
047 Virology
026 Immunology, Serology and Transplantation
017 Public Health, Social Medicine and Epidemiology
011 Otorhinolaryngology
LA English
AB By ingestion of subunit-killed influenza **virus vaccine** in the form of enteric-coated capsules, **local** synthesis of **secretory IgA** (sIgA) **antibody** was stimulated in human nasal **secretions**. A fairly equal **antibody response** initiated by **oral** and intramuscular administration was demonstrated in the nasal **secretions**, although a systemic **immune response** was not elicited from ingestion of the **vaccine**. If the **secretory antibody response** resulted from absorption of antigen and transport to the respiratory mucosa, systemic (serum) **antibody** would be expected. Therefore these findings support the hypothesis that specialized collections of lymphoid cells in the small intestines have **IgA** precursor cells which circulate and populate distant mucosal sites. A number of studies have suggested that protection against mucosal infection by a variety of respiratory **viruses** correlates better with the presence and level of sIgA **antibody** than with serum **antibody**. The orally administered **vaccine** was associated with no more side effects than placebo, in contradistinction to the intramuscular route. Thus, the **oral** method of influenza **vaccination** could prove to be superior in providing for immunological protection due to equal **secretory antibody** stimulation, improved convenience and less toxicity.

L10 ANSWER 22 OF 25 EMBASE
on STN
AN 74001260 EMBASE
DN 1974001260
TI Intestinal defence in the young pig: a review of the **secretory antibody** systems and their possible role in oral immunisation.
AU Porter P.
CS Unilever Res. Lab., Bedford, United Kingdom
SO Veterinary Record, (1973) 92/25 (658-664).
CODEN: VETRAX
DT Journal
FS 026 Immunology, Serology and Transplantation
030 Pharmacology
LA English
AB Immunological studies in the pig have defined a locally stimulated **secretory immune** system mediated **IgA**. Studies of numerous external **secretions** substantiate the concept that **IgA antibodies** probably provide an important barrier on and in the mucosal epithelium providing a first line of defence against **pathogens**. The immunoglobulin is synthesised in **immunocytes** situated in the tissue close to the epithelium of those organs which have intimate contact with the external environment. Thus **IgA** is the predominant immunoglobulin in **secretions** of the mammary gland, salivary gland, gastro intestinal, respiratory and genito urinary tracts. At some point in its transport to the external surface **IgA** is complexed with an additional chain '**secretory** component' which is synthesised separately and independently in the epithelial cells. The biological function of this appears to be protection of the immunoglobulin against enzyme degradation and to bind the immunoglobulin in the surface **mucous**. It is

probable that deficiencies in this immunobiological system play an important role in the pathogenesis of infectious disease in the neonate and throughout life. Therefore in studies of the young pig the **responses** of **secretory antibody** system involved in defence of the alimentary tract against enteropathogenic Escherichia coli have been quantified. Furthermore, orally administered E.coli **vaccines** have been used to enhance the natural developing **local** defence mechanisms in the alimentary tract of the young animal, so that it may more effectively cope with post weaning bacterial challenge.

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#26	Search **Mouth AND vaccine AND IgA** Field: **Title/Abstract,** Limits: **Publication Date to 1998/06/28**	11:18:08	5
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#15	Search **Buccal AND vaccine** Field: **Title/Abstract,** Limits: **Publication Date to 1998/06/28**	11:13:28	17
#9	Search **Buccal AND immunization** Field: **Title/Abstract,** Limits: **Publication Date to 1998/06/28**	11:07:57	12
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#1	Search **"inflammatory bowel disease" and crohns**	09:04:03	11

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Related Resources

1: Dev Biol Stand. 1978;41:39-43. Related Articles, Links

Oral immunization of dogs against tetanus, diphtheria and pertussis.

Zwisler O, Ronneberger H.

Mongrel dogs were revaccinated three weeks after basic parenteral immunization with a DT-vaccine with 3 X 3 capsules of an enteric coated oral vaccine, which contained 500 Lf in each of the capsules. When there was a basic titer of 0.005 IU/ml serum, the titer went up to 10 IU/ml by oral vaccination. Similar levels were obtained when lozenges containing the same amount of toxoid were used for revaccination. A twofold buccal vaccination without preceding parenteral vaccination yielded no protective titers. Also a parenteral basic immunization with a diluted DPT-vaccine, followed by oral vaccination with enteric coated capsules, containing a soluble pertussis vaccine, resulted in no titers measured by bacterial agglutination test. In the cases of diphtheria and tetanus only part of the animals showed elevated titres after oral vaccination and protective titers could only be reached if rather high amounts of toxoids were administered orally. It can be concluded from the results that an oral revaccination does not confer protective immunity comparable to that conferred by parenteral vaccination.

PMID: 753668 [PubMed - indexed for MEDLINE]

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1: Dev Biol Stand. 1976;33:417-23. Related Articles, Links

The oral rabies immunization of foxes and dogs with sausage baits.

Baer GM.

Foxes wer immunized orally with an attenuated rabies vaccine, ERA, grown on BHK cells. The liquid vaccine was placed in plastic straws, which in turn were incorporated into smoked sausage baits, acceptable to and readily ingested by the animals. When the baits were bitten and the meat swallowed, an oral immunizing dose of vaccine resulted in circulating antibody titers in foxes (and dogs); the animals with antibody resisted a "street" rabies virus challenge that killed unvaccinated controls. The immunization was strictly lingual and buccal, and foxes with interrupted esophagi developed antibody only if the vaccine was deposited in the mouth, while those given a similar dose in the ventral esophagostomy opening (below the interruption and close to the stomach) failed to develop antibody. A casein hydrolysate derivative resulted in such stabilization of the liquid that even when baits were held at 35 degree C for 3 days, similar to extreme field conditions, an immunizing titer for foxes (greater than or equal to 10(4.5)LD50) was still maintained.

PMID: 955279 [PubMed - indexed for MEDLINE]

1: Vaccine. 2002 Jan 31;20(9-10):1295-307. Related Articles, Links

ELSEVIER FULL-TEXT ARTICLE

Immunization strategies to augment oral vaccination with DNA and viral vectors expressing HIV envelope glycoprotein.

Wierzbicki A, Kiszka I, Kaneko H, Kmieciak D, Wasik TJ, Gzyl J, Kaneko Y, Kozbor D.

Center for Neurovirology, MCP Hahnemann University, Philadelphia, PA 19102, USA.

Induction of mucosal immunity to the human immunodeficiency virus (HIV) envelope (env; gp160) glycoprotein has been demonstrated with orally administered recombinant vaccinia virus (rVV) vectors and poly(DL-lactide-co-glycolide) (PLG)-encapsulated plasmid DNA expressing gp160. In this study, we investigated the effect of an oral DNA-prime/rVV-boost vaccine regimen in conjunction with adjuvants on the level of gp160-specific cellular and humoral responses in BALB/c mice. We demonstrated that DNA priming followed by a booster with rVV expressing gp160 (vPE16) significantly augmented env-specific immunity in systemic and mucosal tissues of the immunized mice. Association of vPE16 with liposomes and coadministration of liposome-associated beta-glucan lentinan or IL-2/Ig-encoded plasmid DNA-encapsulated in PLG microparticles triggered the optimal cell-mediated immune (CMI) responses. Lentinan was found to increase env-specific type 1 cytokine production and cytotoxic T-lymphocyte (CTL) activities but had no effect on humoral responses. On the other hand, IL-2/Ig-mediated increases in both type 1 and 2 activities were associated with higher levels of env-specific CTL and antibody responses. Results of these studies demonstrated the effectiveness of oral vaccines with DNA and rVV vectors in conjunction with immunomodulators in inducing specific immune responses in systemic and mucosal tissues.

PMID: 11818148 [PubMed - indexed for MEDLINE]

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2) TI [The type of distribution of the cellular oral immune system of the major and minor salivary glands. Immunocytochemical observations].
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AU Beckenkamp G.
CS Institut fur Pathologie, Universitat Hamburg, D 2000 Hamburg 20, Germany
SO HNO, (1985) 33/5 (196-203).
CODEN: HBZHAS

TI Induction of SIV capsid-specific CTL and mucosal sIgA in mice immunized with a recombinant S. typhimurium aroA mutant.
AU Valentine P J; Meyer K; Rivera M M; Lipps C; Pauza D; Maziarz R T; So M; Heffron F
CS Department of Microbiology and Immunology, Oregon Health Sciences University, Portland 97201, USA.
SO VACCINE, (1996 Feb) 14 (2) 138-46.

TI Mucosal immunity: implications for vaccine development.
AU Holmgren J; Czerkinsky C; Lycke N; Svennerholm A M
CS Department of Medical Microbiology and Immunology, University of Goteborg,Sweden.
SO IMMUNOBIOLOGY, (1992 Feb) 184 (2-3) 157-79. Ref: 66
Journal code: 8002742. ISSN: 0171-2985.

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CS Department of Medical Microbiol gy and Immunology, University of Goteborg,Sweden.
SO IMMUNOBIOLOGY, (1992 Feb) 184 (2-3) 157-79. Ref: 66
Journal code: 8002742. ISSN: 0171-2985.

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Bukawa et al., Nature Medicine 1(7): 681-85 (1995).
Zwisler et al., Dev Biol Stand, 41: 39-43 (1978).
Baer GM, Dev Biol Stand 33: 417-23 (1976).

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Thank you,
Zac Lucas

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